UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/505,830	02/17/2000	Christian L. Houlberg	82 100	6929

7590   12/31/2003

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EXAMINER
SEAL, JAMES

ART UNIT	PAPER NUMBER
2135	2

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/505,830	Applicant(s) HOULBERG ET AL.
	Examiner James Seal	Art Unit 2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2000*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
   a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1.   This Action is in reply to applicant's correspondence of 17 February 2000.

2.   Claims 1-16 pending.

Oath/Declaration

3.   Oath/Declaration is missing. An oath/declaration signed by both applicant's should be included with the response to this Action.

Specification

The disclosure is objected to because of the following informalities: Applicant's disclose a non-olatile memory for loading keys for the KVB-68 (Nobleman) encryption device used to secure weapon systems, aircraft telemetry, and data link encryption applicants at test ranges. Applicant's however, use the designation KVG-68 second paragraph when they refer to the encryption device in Figure 1 which is labeled KGV-68. Examiner view this as a topo in the specification, but in any case the labels in figure 1 should correspond to the description in the specification. On page 7 end of first paragraph, the KVG-68 to twice in lines 7 and 9 while the same device is referred to when just above the KGV-68 in line 5. line 9 also refers to "to" KVG-68 when it should be "two". Again top line of page 8 KVG-68 is referred to as encryption device 24 when figure 1 device 24 is labeled KGV-68. The applicant's are responsible for proof reading their applicant. These an any other corrections to the specification should be made in respond to this action. Appropriate correction is required.

4.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claim 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Borgen H1414, and further in view of Maher 5513261 A.

6.   As per claim 1, the limitation for providing a cryptokey (note that both a

cryptokey (or key) or a keyword may be stored in the nonvolatile memory system see

Column 2, line 7) to an encryption device (KGV-68, Column 1, lines 37-41; Column 13,

lines 52-55) for a telemeter system missile is disclosed by Borgen (Column 1, lines 15-

30). Borgen is silent on the associated of a key and checkword (keyword). Maher

discloses the association of of a checkword stored in memory and a key in which the

controller verifies that the key is the correct one from the association (Column 4, lines 1-

7. it would have been obvious for one of ordinary skill in the art at the time the invention

was made to have modified Borgen with the association of the keyword or checkword

with a key in order to check whether the correct key has been choosen.

7.   The limitation of a loading key material (key and checkword) is disclosed by

Borgen (Column 2, lines 5-7 and Column 13, lines 27-34). The KOI-18, KYK-13, and

KYX-15 are standard keyloader.

8.   The limitation of a controller connected to the loader to receive cryptokey and

associated checkword such that controller sends a first logic signal to loader to effect a

transfer of cryptokey and associated ckeckword from loader to storage (memory) is

disclosed by Borgen see Column 2, lines 10-16.

9.   The limitation that controller connected to the encryption device such that

controller sends a second logic signal to said encryption device to *initiate a load* of

cryptokey and associated checkwork into encryption device is disclosed by Borgen

(Column 2, lines 16-21).

10.   The limitation that the encryption device is ready to receive the key and

checkword is disclosed by Borgen Column 18, lines 24-25.

11.   The limitation that the controller disables transmitter when key and checkword

are being loaded into encryption device. Borgen is silent on disabling the transmitter

circuitry while downing the key, however, one of ordinary skill in the art at the time the

invention was made would have been motivated to disable any transmitter circuit

because of the possibility of accidental transmission or the possibility of TEMPEST

noncompliance.

12.   The limitation of erasing keys and associated checkword after they have been

successively downloaded into the encryption device is disclosed by Borgen Column 20

lines 59-63 to avoid detection of previously stored key and associated checkword in RAM 78. Claim 1 is rejected.

13.   As per claim 2, the limitation that the controller is an 8-bit microcontroller is disclosed by Borgen Figure 1B element 75 and Column 11, line 66-68. Claim 2 is rejected.

14.   As per claims 3, the limitation wherein control includes an EEPROM for storing cryptokey and associated checkword is disclosed by Borgen Column 16, lines 18-31. Claim 3 is rejected.

15.   As per claim 4, the limitation that the status of the load of the cryptokey and associated checkword into encryption is determined is disclosed by Borgen Column 18, lines 20-25. Borgen is silent as to whether this information is displayed and in particular by LEDs. It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have used low power LEDs as an visual indication of the success or failure of the key load because this would indicated whether the encryption circuit is ready to engage. Claim 4 is rejected.

16.   As per claim 5, Borgen is silent on the limitation of using an LED to indicate whether the key and associated checkword has been erase from memory, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an LED indicator light as a visual means to determine if the previous key and checkword were erased to prevent detection (see Column 20, lines 59-63). Claim 5 is rejected.

17.   Claims 6 recites the limitation of claim 1 with the added limitation that the control

means is a microcontroller and the loading means is a keyloader. Borgen discloses a

microcontroller Figure 1B element 75 and keyloader see figure 33A and Column 2, line

5-11 and Maher Column 4, lines 1-9. Claim 6 is rejected.

18.   With regards to claims 7-9, the limitation are the same as claim 2-4 with the

control means a microcontroller. Borgen discloses a microcontroller Figure 1B element

75. Claim 7-9 are rejected.

19.   As per claim 10, the limitation that microcontroller responses to launch by erasing

cryptokey and associated checkword, is disclosed by Borgen see Column 20, lines 58-

63. Claim 10 is rejected.

20.   As per claim 11, the limitation of a LED visual indicator to indicates eraser of key

and associated checkword parallel claim 5 with the control means a mircoprocessor.

Claim 11 is rejected.

21.   As per claim 12, the limitation wherein the microcontroller is connected to the

loader interface to receive an erase signal from loader interface, erasing cryptokey and

associated checkword from microcontroller is disclosed by Borgen Column 22, lines 31-

40. Claim 12 is rejected.

22.   The limitation of claim 13, parallel the limitation of claim 6 with the added

limitations that the LED connected to microcontroller display status of load, the

limitation that upon launch the microcontroller responds by erasing key and checkword,

and a second LED displaying status of erasure. For art rejection against these limitation

see claims 9-11.   Motivation to combine these limitation with the recited limitations of

claim 6 would be to provide more security against detection of previous stored keys in a

unified apparatus. Claim 13 rejected.

23.   Claims 14-16 parallel the limitation of claims 7-8, and 12 and are rejected in view

of the same prior art of record.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to James Seal whose telephone number is 703 308 4562.

The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim Vu can be reached on 703 305 9711. The fax phone number for the

organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703 308

3900.

James Seal
Examiner AU2135
26 December 2003